

10/582,400

(FILE 'HOME' ENTERED AT 17:33:56 ON 30 JUN 2007)

FILE 'REGISTRY' ENTERED AT 17:34:42 ON 30 JUN 2007

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 17:35:28 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 184 TO ITERATE

100.0% PROCESSED 184 ITERATIONS

6 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 2867 TO 4493

PROJECTED ANSWERS: 6 TO 266

L2 6 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 17:35:33 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 3640 TO ITERATE

100.0% PROCESSED 3640 ITERATIONS

60 ANSWERS

SEARCH TIME: 00.00.01

L3 60 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

172.55

172.76

FILE 'CAPLUS' ENTERED AT 17:35:39 ON 30 JUN 2007

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FILE COVERS 1907 - 30 Jun 2007 VOL 147 ISS 2

FILE LAST UPDATED: 29 Jun 2007 (20070629/ED)

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<http://www.cas.org/infopolicy.html>

=> s 13

L4 19 L3

=> d 1-19 bib abs

L4 ANSWER 1 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2006:1174237 CAPLUS

DN 145:471699

TI Bidentate planar-chiral modular ferrocenyl phosphines, thiols and amines as ligands for transition metal catalyzed asymmetric reactions and process for preparation thereof

IN Pugin, Benoit; Feng, Xiangdong

PA Solvias A.-G., Switz.

SO PCT Int. Appl., 59pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006117369	A1	20061109	WO 2006-EP61973	20060502
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRAI CH 2005-776 A 20050503

OS MARPAT 145:471699

AB Ferrocenes $[(\eta^5-1-R-2-Y-3-X1-4-X2-C5H)Fe(\eta^5-C5H5-nR1n)]$ [1, n = 0-5, R1 = C1-4 alkyl, C6-10 aryl, C7-12 (alk)aralkyl, preferably n = 0; R = H, halo, silyl, optionally alkylthio-, alkoxy-, aryloxy-, silyl-substituted C1-20 organyl, preferably R = C1-4 alkyl(thio) C1-4 alkoxy, PhO, Me3Si; Y = C-bound chiral directing group containing vinyl, Me, Et, alkoxymethyl, siloxymethyl aminomethyl groups, preferably Y = 1-methoxyethyl, 1-dimethylaminoethyl, (dimethylamino)phenylmethyl, 2-oxazolynyl, 1,3-dioxan-2-yl; X1, X2 = optionally chiral phosphino, P-heterocyclyl, SH, organylthio, preferably X1 \neq X2], useful as ligands for transition metal-catalyzed asym. reactions, preferably for asym. hydrogenation, were prepared by a process comprising lithiation of trisubstituted ferrocenes $[(\eta^5-1-R-2-Y-3-Z-C5H2)Fe(\eta^5-C5H5-nR1n)]$ (2, Z = halo, same R, R1, Y) by lithium or magnesium secondary amides to $[(\eta^5-1-R-2-Y-3-Z-4-MC5H)Fe(\eta^5-C5H5-nR1n)]$ (3, M = Li, halomagnesium) followed by introduction of X2 by reaction with X2Z1 (Z1 = halo) to give $[(\eta^5-1-R-2-Y-3-Z-4-X2C5H)Fe(\eta^5-C5H5-nR1n)]$ (4, same R, Y, X, Z) with subsequent metalation by alkylolithium or Grignard reagents and analogous introduction of X1. In an example, (2S)-1-(dicyclohexylphosphino)-2-diphenylphosphino-3-[(1R)-1-(dimethylaminoethyl)]ferrocene (B1) was prepared by reaction of (1R)-1-bromo-2-[(1R)-1-(dimethylaminoethyl)]ferrocene with lithium 2,2,6,6-tetramethylpiperidide and Cy2PCl, followed by BuLi lithiation of the resulting compound 2 [R = H, Y = (R)-CHMe(NMe2), Z = Br, X2 = PCy2] and reaction with Ph2PCl. In another example, the prepared compound B1 was used as ligand in rhodium-catalyzed asym. hydrogenation of di-Me itaconate, affording di-Me (R)-methylsuccinate with 100% conversion and 95% ee.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:26824 CAPLUS
DN 144:274387
TI General Route to Dissymmetric Heteroannular-Functionalized Ferrocenyl
1,2-Diphosphines: Selective Synthesis and Characterization of a New Class
of Tri- and Tetrasubstituted Ferrocenyl Compounds
AU Ivanov, V. V.; Hierso, J.-C.; Amardeil, R.; Meunier, P.
CS Laboratoire de Synthèse et Electrosynthèse Organometalliques associée au
CNRS (UMR 5188), Faculté des sciences Mirande, Université de Bourgogne,
Dijon, 21078, Fr.
SO Organometallics (2006), 25(4), 989-995
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 144:274387
AB Several monosubstituted-cyclopentadienyl anions (A-Li) and
[1,2-bis(diphenylphosphino)-4-tert-butylcyclopentadienyl]lithium (B-Li)
react with FeCl₂ to afford a novel class of multidentate
ferrocenylphosphines (A-Fe-B). The proposed synthetic method represents a
unique means to produce achiral dissym. 1,1',2-substituted ferrocenes
(A-Fe-B) bearing a heteroannular 1'-substituent which is different from
the homoannular 1- and 2-substituents. The selectivity for the two-step
reaction favors formation of the desired dissym. product (A-Fe-B) rather
than the concurrent formation of the sym. di- and tetrasubstituted
ferrocenes (A-Fe-A and B-Fe-B). Therefore, this method allows access to a
great number of dissym. multidentate metalloligands, especially when one
considers
that functionalized-Cp salts continue to expand in terms of number and
diversity. Herein, emphasis was placed upon the ¹H, ¹³C, and ³¹P NMR
characterization of the metalloligands; several examples exhibit
intriguing conformational properties and rare "through-space" phosphorus
nuclear-spin couplings.

RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

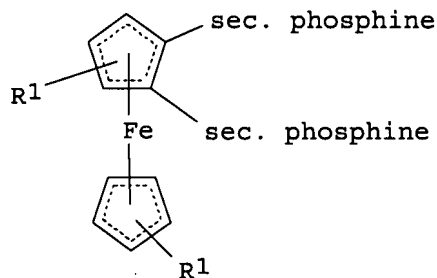
L4 ANSWER 3 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:547608 CAPLUS
DN 143:78304
TI Preparation of ferrocenyl-1,2-diphosphines and their metal complexes as
catalysts for asymmetric synthesis
IN Lotz, Matthias; Kesselgruber, Martin; Thommen, Marc; Pugin, Benoit
PA Solvias A.-G., Switz.
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005056568	A1	20050623	WO 2004-EP53389	20041210
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,			

MR, NE, SN, TD, TG

CA 2548928	A1	20050623	CA 2004-2548928	20041210
EP 1692151	A1	20060823	EP 2004-820078	20041210
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1894268	A	20070110	CN 2004-80037022	20041210
JP 2007516971	T	20070628	JP 2006-543552	20041210
US 2007142655	A1	20070621	US 2006-582406	20060609
PRAI CH 2003-2131	A	20031212		
WO 2004-EP53389	W	20041210		
OS CASREACT 143:78304; MARPAT 143:78304				
GI				



I

AB The invention relates to preparation of compds., I (R1 = H, C1-4 alkyl, and at least one sec. phosphine depicts an unsubstituted or substituted cyclic phosphine group, or phosphonium salts thereof having one or two monovalent anions or a divalent anion), provided in the form of racemic compds., mixts. of diastereomers or essentially pure diastereomers. I can be obtained by a novel method and are valuable ligands for catalytically active metal complexes in asym. synthesis.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:547607 CAPLUS

DN 143:78303

TI Method for producing ortho-metalated and ortho-substituted aromatic compounds

IN Pfaltz, Andreas; Lotz, Matthias; Schoenleber, Marc; Pugin, Benoit; Kesselgruber, Martin; Thommen, Marc

PA Solvias A.-G., Switz.

SO PCT Int. Appl., 98 pp.

CODEN: PIXXD2

DT Patent

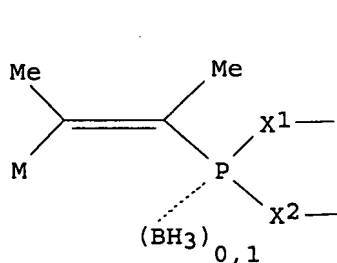
LA German

FAN.CNT 1

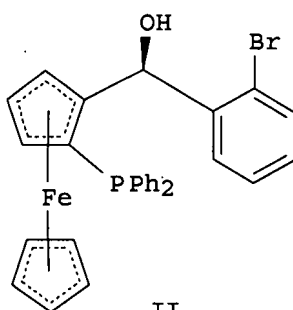
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005056566	A2	20050623	WO 2004-EP53388	20041210
	WO 2005056566	A3	20051201		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,				

EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG

CA 2548925	A1	20050623	CA 2004-2548925	20041210
EP 1692149	A2	20060823	EP 2004-820077	20041210
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1890253	A	20070103	CN 2004-80036675	20041210
JP 2007513923	T	20070531	JP 2006-543551	20041210
US 2007149796	A1	20070628	US 2006-582404	20060609
PRAI CH 2003-2134	A	20031212		
WO 2004-EP53388	W	20041210		
OS CASREACT 143:78303; MARPAT 143:78303				
GI				



I



II

AB The invention relates to compds. having a structural element I in an aromatic hydrocarbon ring, wherein: M = Li, MgX₃, (C₁-18 alkyl)₃Sn, ZnX₃, B(OC₁-4 alkyl)₂; X₁, X₂ = independent of one another, represent O, N, C-bound hydrocarbon radicals, heterohydrocarbon radicals are bound to the free bonds of the O and N atoms; group C:C, together with C atoms, forms a hydrocarbon aromatic compound and represents X₃ Cl, Br, I. The inventive compds. are easily obtained by directly substituting the hydrogen in the ortho position to the P atom with metalation reagents. The metal atoms can then be substituted by a reactive electrophilic compound. The group P(X₁)(X₂)----(BH₃)_{0.1} can then be converted into a secondary phosphine group. The inventive method enables the production of monophosphines and diphosphines even on a large scale (coating), which are valuable ligands for metal complexes serving as catalysts for, e.g. enantioselective hydrogenations. Thus, preparation of title compound is described in several steps starting from ferrocene.

L4 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:848402 CAPLUS

DN 142:6632

TI Synthesizing multidentate ferrocenylphosphines: A powerful route to dissymmetrically tri-substituted ferrocenes. X-ray structure and ¹³C NMR of a diaryl-alkyl-phosphino ferrocene

AU Hierso, Jean-Cyrille; Ivanov, Vladimir V.; Amardeil, Regine; Richard, Philippe; Meunier, Philippe

CS LSEO UMR-CNRS 5188, Universite de Bourgogne, Dijon, F-21078, Fr.

SO Chemistry Letters (2004), 33(10), 1296-1297

CODEN: CMLTAG; ISSN: 0366-7022

PB Chemical Society of Japan

DT Journal

LA English

OS CASREACT 142:6632

AB As a powerful route to multidentate ferrocenylphosphines, the synthetic strategy which consists in successively reacting FeCl₂ with the suitably substituted cyclopentadienyllithium salts was carried out. The new mixed

diaryl/alkyl triphosphine 1,2-bis(diphenylphosphino)-1'-(diisopropylphosphino)-4-tert-butylferrocene was obtained in good yield (70%). A very rare through-space nuclear spin-spin coupling JCP = 5.5 Hz was evidenced from its reported ¹³C NMR and x-ray mol. structure characterizations.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:704772 CAPLUS
DN 141:349854
TI Catalytic efficiency of a new tridentate ferrocenyl phosphine auxiliary: Sonogashira cross-coupling reactions of alkynes with aryl bromides and chlorides at low catalyst loadings of 10⁻¹ to 10⁻⁴ Mol %
AU Hierso, Jean-Cyrille; Fihri, Aziz; Amardeil, Regine; Meunier, Philippe; Doucet, Henri; Santelli, Maurice; Ivanov, Vladimir V.
CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques UMR-CNRS 5188, Université de Bourgogne, Dijon, 21078, Fr.
SO Organic Letters (2004), 6(20), 3473-3476
 CODEN: ORLEF7; ISSN: 1523-7060
PB American Chemical Society
DT Journal
LA English
OS CASREACT 141:349854
AB The catalytic activity in Sonogashira cross-coupling reaction of alkynes with a variety of aryl halides (including chlorides) using a multidentate ferrocenyl phosphine is presented. The mixed ferrocenyl aryl/alkyl triphosphine was thermally stable and insensitive to air or moisture, and its robustness allowed aryl alkynylation at very low catalyst loadings with TONs up to 250 000. Copper-free coupling using phenylacetylene was also accessible in good yield.

RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:643845 CAPLUS
DN 141:342395
TI "Through-Space" Nuclear Spin-Spin JPP Coupling in Tetrakisphosphine Ferrocenyl Derivatives: A ³¹P NMR and X-ray Structure Correlation Study for Coordination Complexes
AU Hierso, Jean-Cyrille; Fihri, Aziz; Ivanov, Vladimir V.; Hanquet, Bernard; Pirio, Nadine; Donnadié, Bruno; Rebière, Bertrand; Amardeil, Regine; Meunier, Philippe
CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques UMR-CNRS 5188, Facultés des Sciences Mirande, Université de Bourgogne, Dijon, F-21078, Fr.
SO Journal of the American Chemical Society (2004), 126(35), 11077-11087
 CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 141:342395
AB Herein, the authors report on ³¹P³¹P solution-phase through-space nuclear spin-spin coupling consts. (JPP) from tetrakisphosphine complexes [(MX₂)nL] (M = Ni, Pd; X = Cl, Br; n = 1, 2; L = 1,1',2,2'-tetrakis(diphenylphosphino)-4,4'-di-tert-butylferrocene). These JPP consts. were accurately determined through NMR iterative simulation based on the 2nd-order spectra obtained for the compds. The corresponding solid-state x-ray structures of the complexes were determined, and the through-space P...P distances are reported. Due to the blocked conformation of the species in solution, a qual. and semiquant. exptl. correlation was obtained, which links the geometric parameters and the intensity of the corresponding P...P coupling constant. The lone-pair overlap theory developed for ¹⁹F¹⁹F and ¹⁵N¹⁵N

through-space couplings in organic compds. [J. Am. Chemical Society 1973, 95, 7747-7752; 2000, 122, 4108-4116] appears to be a reliable foundation on which to account for the authors' results. Based on the reported observations, the lone-pair overlap model is extended to through-space 31P31P coupling, and the model is broadened to encompass metal orbital contributions for coordination complexes. Some of the predictions and consequences of the proposed theory are discussed.

RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:753472 CAPLUS

DN 139:381594

TI A Palladium-Ferrocenyl Tetrphosphine System as Catalyst for Suzuki Cross-Coupling and Heck Vinylation of Aryl Halides: Dynamic Behavior of the Palladium/Phosphine Species

AU Hierso, Jean-Cyrille; Fihri, Aziz; Amardeil, Regine; Meunier, Philippe; Doucet, Henri; Santelli, Maurice; Donnadieu, Bruno

CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques Associé au CNRS, Université de Bourgogne, Dijon, 21000, Fr.

SO Organometallics (2003), 22(22), 4490-4499
CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

OS CASREACT 139:381594

AB The system combining the new ferrocenyl tetrphosphine 1,1',2,2'-tetrakis(diphenylphosphino)-4,4'-di-tert-butylferrocene (called Fc(P)4tBu, 1) and [PdCl(η 3-C3H5)]2 is an active catalyst for the cross-coupling of aryl halides with aryl boronic acids (i.e., Suzuki reaction) and for the vinylation of aryl halides with alkenes (Heck reaction). A variety of chlorides reacts in good yield with aryl boronic acids in the presence of 1-0.01% catalyst. The more reactive aryl bromides were reacted with aryl boronic acids or alkenes in the presence of 0.01-0.0001% catalyst. This system compares well with other catalytic systems that were described for Suzuki or Heck reactions. 1H, 13C, and 31P NMR studies in solution were conducted with the view to obtain a better understanding of the interaction involving the Pd dimeric precursor and the tetrphosphine. The initial formation of kinetic and then different thermodyn. species was evidenced. A dynamic evolution from labile Pd(π -allyl)/tetrphosphine species toward the well-defined, stable, and nonfluxional complexes [PdCl2{Fc(P)4tBu}] (3) and [Pd2Cl4{Fc(P)4tBu}] (4) is observed. This behavior is different from the other known active tetrphosphine Tedicyp [cis,cis,cis-1,2,3,4-tetrakis(diphenylphosphinomethyl)cyclopentane]. The Pd mononuclear 3 and dinuclear 4 complexes were isolated and fully characterized in the solid state by x-ray diffraction anal. and in solution by multinuclear NMR. The blocked conformation in solution

of compds. 1, 3, and 4 resp. leads to original AA'BB', ABMX, and A2B2 31P NMR spin-systems for the four P atoms.

RE.CNT 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:400175 CAPLUS

DN 137:256776

TI Different coordination modes of a 1,1',2,2'-ferrocenyltetrphosphine: bi- and tri-dentate behaviour with group 6 and 7 transition metals

AU Andre-Bentabet, Emmanuelle; Broussier, Roland; Amardeil, Regine; Hierso, Jean-Cyrille; Richard, Philippe; Fasseur, Dominique; Gautheron, Bernard; Meunier, Philippe

CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques (UMR 5632), Université de Bourgogne, Dijon, 21000, Fr.

SO Journal of the Chemical Society, Dalton Transactions (2002), (11),

2322-2327

CODEN: JCSDAA; ISSN: 1472-7773

PB Royal Society of Chemistry

DT Journal

LA English

OS CASREACT 137:256776

AB The behavior of 1,1',2,2'-tetrakis(diphenylphosphino)-4,4'-di(tert-butyl)ferrocene (1), acting as a homoannular or heteroannular ligand, was studied. Due to the cisoid disposition of the phosphino groups of each ring, different coordination modes are observed. With Group 6 metal carbonyls, $M(CO)_6$, the tetraphosphine acts exclusively as a tridentate ligand. In contrast, the reaction with $MnCp(CO)_3$ leads to complexes showing 1,1' and 1,2 bidentate coordination modes. All these complexes were characterized by 1H and ^{31}P NMR spectroscopy. The mol. structures of the Mo complex $[(1)Mo(CO)_3]$ (2b) and the 1,1' Mn complex $[(1)MnCp(CO)]$ (3) were established by x-ray diffraction.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:878952 CAPLUS

DN 136:247674

TI 1,1',2,2'-Tetrakis(diphenylphosphino)-4,4'-di-tert-butylferrocene, a new cisoid arrangement of phosphino groups

AU Broussier, Roland; Bentabet, Emmanuelle; Amardeil, Regine; Richard, Philippe; Meunier, Philippe; Kalck, Philippe; Gautheron, Bernard

CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques (UMR 5632), Université de Bourgogne, Dijon, 21000, Fr.

SO Journal of Organometallic Chemistry (2001), 637-639, 126-133

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier Science S.A.

DT Journal

LA English

OS CASREACT 136:247674

AB The action of two equivalent of 1,2-bis(diphenylphosphino)-4-tert-butylcyclopentadienyllithium on $FeCl_2$ led to the corresponding 1,1',2,2'-tetraphosphinoferrocene. The x-ray structure of this bulky ferrocene is described. The spectroscopic results reveal a conformational chirality with a cisoid disposition of the phosphino groups. The first results about the complexation with representative elements of Group IX and X (Rh, Pd, Ir) are reported.

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:895722 CAPLUS

DN 134:193552

TI Rhodium and palladium complexes from 1,1' and 1,2 ferrocenylphosphine as bidentate ligands. Versatile coordination

AU Broussier, R.; Bentabet, E.; Laly, M.; Richard, P.; Kuz'mina, L. G.; Serp, P.; Wheatley, N.; Kalck, P.; Gautheron, B.

CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques (UMR 5632), Université de Bourgogne, Dijon, 21000, Fr.

SO Journal of Organometallic Chemistry (2000), 613(1), 77-85

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier Science S.A.

DT Journal

LA English

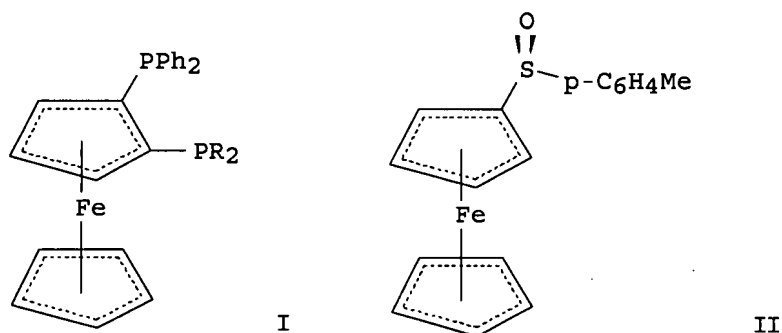
OS CASREACT 134:193552

AB The complexation of the mixed bidentate ligands 1-diphenylphosphino-1'-diphenylthiophosphinoferrocenyl and 1,2-bis(diphenylphosphino)ferrocenyl with rhodium(I) and palladium(II) species yield a range of mono- and dirhodium or palladium complexes. Their interest as possible catalysts for alkene hydroformylation and alkoxycarbonylation and Heck coupling

reactions has been assessed. $\text{Fe}[\text{C5Me4P(S)Ph2}][\text{C5Me4PPh2}]\text{PdCl2}$ and $\text{Fe}[\text{C5H2-1,2-(PPh2)2-4-tBu}][\text{C5H5}]\text{PdCl2}$ have been characterized by single-crystal x-ray diffraction studies.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:609613 CAPLUS
DN 133:335302
TI A new class of ferrocene-based 1,2-bis(phosphanes) possessing only planar chirality
AU Argouarch, Gilles; Samuel, Odile; Riant, Olivier; Daran, Jean-Claude; Kagan, Henri B.
CS Institut de Chimie Moleculaire d'Orsay, Universite Paris-Sud, Orsay, 91405, Fr.
SO European Journal of Organic Chemistry (2000), (16), 2893-2899
CODEN: EJOCFK; ISSN: 1434-193X
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
OS CASREACT 133:335302
GI



AB Chiral 1,2-bis(phosphines) (I; R = cyclohexyl (13a), Me (13b)), devoid of individual chiral centers, were prepared in three steps from chiral sulfoxide 10 (shown as II). Their corresponding Rh complexes were used as catalysts for asym. hydrogenation, giving high ee values ($\leq 95\%$) in the reduction of itaconic acid or its ester. A cationic Rh complex involving coordination of two mols. of 13b and one mol. of oxygen was isolated and its crystal structure established.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:200733 CAPLUS
DN 133:17610
TI New 1,1'- or 1,2- or 1,3-bis(diphenylphosphino)ferrocenes
AU Broussier, R.; Bentabet, E.; Mellet, P.; Blaque, O.; Boyer, P.; Kubicki, M. M.; Gautheron, B.
CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques (UMR 5632), Université de Bourgogne, Dijon, F-21000, Fr.
SO Journal of Organometallic Chemistry (2000), 598(2), 365-373
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
AB The syntheses of ferrocenyl phosphines with bulky substituents are

reported using the reaction between FeCl₂ and the suitably substituted cyclopentadienyl salts, LiC₅H₃-1,3-(PPh₂)₂, LiC₅H₃-1-PPh₂-3-tBu, and LiC₅H₂-1,2-(PPh₂)₂-4-tBu. This strategy leads to bi-, tri- and tetraphosphines, which cannot be obtained by the other access paths used to prepare substituted ferrocenes. [C₅H₃-1,3-(PPh₂)₂](C₅H₅)Fe, [C₅H₃-1-PPh₂-3-tBu]₂Fe racemic and meso and [C₅H₂-1,2-(PPh₂)₂-4-tBu](C₅H₅)Fe were characterized by single-crystal x-ray diffraction studies.

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2000:53800 CAPLUS
DN 132:194457
TI 1,3-Bisdiphenylphosphinoferrocenes: the unexpected 2,5-dilithiation of dibromoferrocene towards a new area of ferrocene-ligand chemistry
AU Butler, I. R.; Drew, M. G. B.; Greenwell, C. H.; Lewis, E.; Plath, M.; Mussig, S.; Szewczyk, J.
CS Chemistry Department, The University of Wales, Bangor, UK
SO Inorganic Chemistry Communications (1999), 2(12), 576-580
 CODEN: ICCOFP; ISSN: 1387-7003
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 132:194457
AB The synthesis and characterization of 1,3-bis(diphenylphosphino)ferrocene is described for the 1st time. The ligand was obtained as a byproduct of the ortho-lithiation of 1,1'-dibromoferrocene, as a consequence of the dilithiation of one of the cyclopentadienyl rings. The intermediate compound 1,1'-dibromo-2,5-bis(diphenylphosphino)ferrocene, which is the precursor compound to the new ligand, was structurally characterized. Further reaction of 1,1'-dibromo-2,5-bis(diphenylphosphino)ferrocene with BuLi followed by quenching with chlorodiphenylphosphine affords the new 1,2,3,1'-tetrakis(diphenylphosphino)ferrocene, while the similar reaction of 1,1'-dibromo-2,2'-bis(diphenylphosphino)ferrocene gives 1,1',2,2'-tetrakis(diphenylphosphino)ferrocene.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:728760 CAPLUS
DN 132:35868
TI A remarkably simple route to tri-substituted ferrocenes: the ortho-lithiation of 1,1'-dibromoferrocene and bromoferrocene
AU Butler, Ian R.; Mussig, Stefan; Plath, Matthias
CS Department of Chemistry, University of Wales, Gwynedd, LL57 2UW, UK
SO Inorganic Chemistry Communications (1999), 2(9), 424-427
 CODEN: ICCOFP; ISSN: 1387-7003
PB Elsevier Science S.A.
DT Journal
LA English
AB The ortho-lithiation of 1,1'-dibromoferrocene is reported for the 1st time. The reaction is carried out using LDA at low temperature in THF to avoid metathesis. A number of electrophilic quenching reagents were used, giving substituted 1,1'-dibromoferrocenes: [(η⁵-C₅H₄Br)Fe(η⁵-C₅H₃(Br)(R)-1,2)], R = -PPh₂, -SCH₃, -P(iPr)₂, -CHO, -CO₂H, -S(O)p-tol. The further derivation of one of these compds., R = -PPh₂, was carried out, again using a lithiation and quench sequence, to demonstrate the versatility of these product compds. as precursors in their own right. In this manner a range of tri-substituted ferrocenes [(η⁵-C₅H₄R)Fe(η⁵-C₅H₃(R)PPh₂-1,2)], R = -PPh₂, -SCH₃, -P(iPr)₂, -CHO, -CO₂H, were prepared. The ortho-lithiation of bromoferrocene was similarly achieved and thus this also provides a simple and effective new route to 1,2-disubstituted ferrocenes.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:486061 CAPLUS
DN 129:189457
TI Ferrocenic polyphosphines and polythioethers: synthesis, reactivity and structure
AU Broussier, Roland; Ninoreille, Serge; Bourdon, Cyrille; Blacque, Olivier; Ninoreille, Corinne; Kubicki, Marek M.; Gautheron, Bernard
CS Laboratoire de Synthèse et d'Electrosynthèse Organometalliques, CNRS, UMR, Dijon, 21004, Fr.
SO Journal of Organometallic Chemistry (1998), 561(1-2), 85-96
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 129:189457
AB The new ferrocenic polyphosphines [C5Me3-1,2-(PPh2)2](C5H5)Fe 2, [C5Me3-1,2-(PPh2)2]2Fe 3, [C5Me3-1,2-(PPh2)2][C5Me4(PPh2)]Fe 4 and polythioethers [C5Me3-1,2-(SCH2CH2CH3)2]2Fe 6 and [C5Me3-1,2-(SCH2CH2CH3)2](C5H5)Fe 7 were prepared. The x-ray crystal structures of 3 and 6 were determined. Some aspects of the reactivity of compds. 2, 3 and 4 are reported [P(III)→P(V) transformation, chelating properties] as well as the x-ray structure of [C5Me3-1,2-(PPh2)2W(CO)4](C5H5)Fe 15.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:275343 CAPLUS
DN 128:294871
TI A Straightforward Asymmetric Synthesis of Enantiopure 1,2-Disubstituted Ferrocenes
AU Riant, Olivier; Argouarch, Gilles; Guillaneux, Denis; Samuel, Odile; Kagan, Henri B.
CS Laboratoire des Réactions Organiques Selectives Institut de Chimie Moléculaire d'Orsay, Université Paris-Sud, Orsay, 91405, Fr.
SO Journal of Organic Chemistry (1998), 63(10), 3511-3514
CODEN: JOCEAH; ISSN: 0022-3263
PB American Chemical Society
DT Journal
LA English
OS CASREACT 128:294871
AB Various types of 1,2-disubstituted chiral ferrocenes (ee ≥ 98%) were prepared conveniently in two steps from ferrocenyl p-tolyl sulfoxide 2 (itself obtained by Andersen method between monolithioferrocene and menthyl p-tolylsulfinate). The process involves an highly diastereoselective ortholithiation of 2 followed by an electrophilic quenching. In a subsequent step t-BuLi attacks the substituted sulfoxide at sulfur, generating a new metalated species which is trapped by a second electrophile.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 18 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1994:44443 CAPLUS
DN 120:44443
TI Multidentate ferrocenylphosphines. I. Tris(diphenylphosphino)ferrocenes
AU Butler, Ian R.; Hobson, Lois J.; Macan, Stephan M. E.; Williams, Denis J.
CS Dep. Chem., Univ. Wales, Bangor/Gwynedd, LL57 2UW, UK
SO Polyhedron (1993), 12(15), 1901-5
CODEN: PLYHDE; ISSN: 0277-5387
DT Journal
LA English

AB New potentially tridentate ferrocenylphosphines were prepared by the lithiation of diphenylphosphinoferrocene (dppf) followed by reaction of the dilithiated products with chlorodiphenylphosphine. The reaction of the new ligands with Pd(COD)Cl₂ was studied using ³¹P NMR to determine the preferential bidentate coordination modes.

L4 ANSWER 19 OF 19 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1986:626916 CAPLUS

DN 105:226916

TI Lithiophosphinoferrocenes. A route to polyphosphines and ring-substituted ferrocenophanes

AU Butler, Ian R.; Cullen, William R.

CS Chem. Dep., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SO Organometallics (1986), 5(12), 2537-42

CODEN: ORGND7; ISSN: 0276-7333

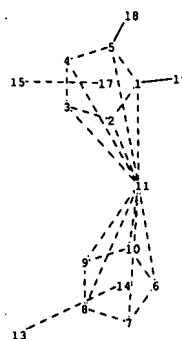
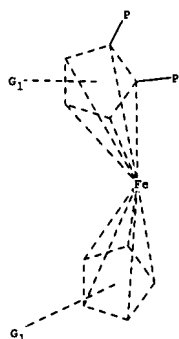
DT Journal

LA English

OS CASREACT 105:226916

GI For diagram(s), see printed CA Issue.

AB Lithiation of (diphenylphosphino)ferrocene by BuLi gave the dilithiated (one lithio group on each ring) product, which was treated with S₈ to give the [3]ferrocenophanes I and II. Treating the dilithiated product with ClPPh₃ gave tris(tertiary phosphines). Similar reaction with Cl₂PPh gave [1]ferrocenophanes, e.g., III. Treating III with organolithium reagents gave anions in the PPh₂-substituted ring. Some As analogs were also studied.



chain nodes :

13 15 18 19

ring nodes :

1 2 3 4 5 6 7 8 9 10 11

chain bonds :

1-19 5-18

ring bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11

exact/norm bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11

exact bonds :

1-19 5-18

G1:H,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

Connectivity :

18:1 M minimum RC ring/chain 19:1 M minimum RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:CLASS 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 13:CLASS
14:CLASS 15:CLASS 17:CLASS 18:CLASS 19:CLASS

(FILE 'HOME' ENTERED AT 18:38:40 ON 30 JUN 2007)

FILE 'REGISTRY' ENTERED AT 18:38:54 ON 30 JUN 2007

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 18:39:49 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 184 TO ITERATE

100.0% PROCESSED 184 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 2867 TO 4493

PROJECTED ANSWERS: 1 TO 80

L2 1 SEA SSS SAM L1

=> s l1 full

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FULL SCREEN SEARCH COMPLETED - 3640 TO ITERATE

100.0% PROCESSED 3640 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.01

L3 2 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

172.55

172.76

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FILE COVERS 1907 - 30 Jun 2007 VOL 147 ISS 2

FILE LAST UPDATED: 29 Jun 2007 (20070629/ED)

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<http://www.cas.org/infopolicy.html>

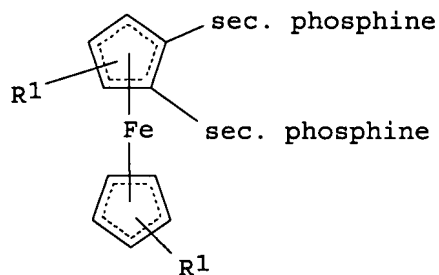
=> s 13

L4 1 L3

=> d bib abs

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:547608 CAPLUS
DN 143:78304
TI Preparation of ferrocenyl-1,2-diphosphines and their metal complexes as
catalysts for asymmetric synthesis
IN Lotz, Matthias; Kesselgruber, Martin; Thommen, Marc; Pugin, Benoit
PA Solvias A.-G., Switz.
SO PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005056568	A1	20050623	WO 2004-EP53389	20041210
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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	EP 1692151	A1	20060823	EP 2004-820078	20041210
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	JP 2007516971	T	20070628	JP 2006-543552	20041210
	US 2007142655	A1	20070621	US 2006-582406	20060609
PRAI	CH 2003-2131	A	20031212		
	WO 2004-EP53389	W	20041210		
OS	CASREACT 143:78304; MARPAT 143:78304				
GI					

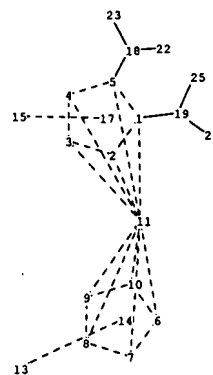
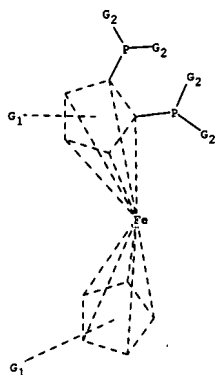


I

AB The invention relates to preparation of compds., I (R1 = H, C1-4 alkyl, and at least one sec. phosphine depicts an unsubstituted or substituted cyclic

phosphine group, or phosphonium salts thereof having one or two monovalent anions or a divalent anion), provided in the form of racemic compds., mixts. of diastereomers or essentially pure diastereomers. I can be obtained by a novel method and are valuable ligands for catalytically active metal complexes in asym. synthesis.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT



chain nodes :

13 15 18 19 22 23 24 25

ring nodes :

1 2 3 4 5 6 7 8 9 10 11

chain bonds :

1-19 5-18 18-22 18-23 19-24 19-25

ring bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11

exact/norm bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11 18-22 18-23 19-24 19-25

exact bonds :

1-19 5-18

G1:H,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

G2:H,Cl,Br

Connectivity :

18:1 M minimum RC ring/chain 19:1 M minimum RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:CLASS 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 13:CLASS
14:CLASS

15:CLASS17:CLASS18:CLASS19:CLASS22:CLASS23:CLASS24:CLASS25:CLASS

(FILE 'HOME' ENTERED AT 18:49:55 ON 30 JUN 2007)

FILE 'REGISTRY' ENTERED AT 18:50:15 ON 30 JUN 2007

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full

FULL SEARCH INITIATED 18:50:54 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 13499 TO ITERATE

100.0% PROCESSED 13499 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.01

L2 2 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

172.10

172.31

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FILE LAST UPDATED: 29 Jun 2007 (20070629/ED)

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=> s l2

L3 1 L2

=> d his

(FILE 'HOME' ENTERED AT 18:49:55 ON 30 JUN 2007)

FILE 'REGISTRY' ENTERED AT 18:50:15 ON 30 JUN 2007

L1 STRUCTURE UPLOADED

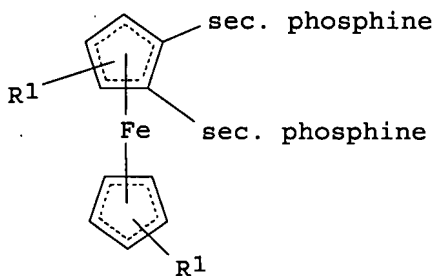
L2 2 S L1 FULL

L3 1 S L2

=> d bib abs

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 2005:547608 CAPLUS
 DN 143:78304
 TI Preparation of ferrocenyl-1,2-diphosphines and their metal complexes as
 catalysts for asymmetric synthesis
 IN Lotz, Matthias; Kesselgruber, Martin; Thommen, Marc; Pugin, Benoit
 PA Solvias A.-G., Switz.
 SO PCT Int. Appl., 65 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

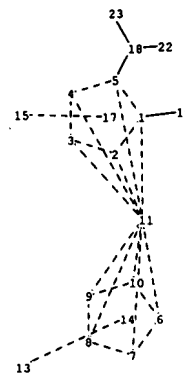
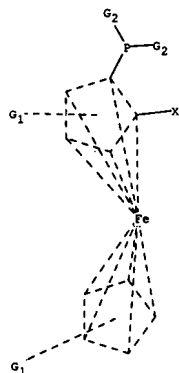
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PI	WO 2005056568	A1	20050623	WO 2004-EP53389	20041210
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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	EP 1692151	A1	20060823	EP 2004-820078	20041210
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PRAI	CH 2003-2131	A	20031212		
	WO 2004-EP53389	W	20041210		
OS	CASREACT 143:78304; MARPAT 143:78304				
GI					



AB The invention relates to preparation of compds., I (R1 = H, C1-4 alkyl, and at least one sec. phosphine depicts an unsubstituted or substituted cyclic phosphine group, or phosphonium salts thereof having one or two monovalent anions or a divalent anion), provided in the form of racemic compds., mixts. of diastereomers or essentially pure diastereomers. I can be

obtained by a novel method and are valuable ligands for catalytically active metal complexes in asym. synthesis.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT



chain nodes :

13 15 18 19 22 23

ring nodes :

1 2 3 4 5 6 7 8 9 10 11

chain bonds :

1-19 5-18 18-22 18-23

ring bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11

exact/norm bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11 18-22 18-23

exact bonds :

1-19 5-18

G1:H,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

G2:H,Cl,Br

Connectivity :

18:1 M minimum RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:CLASS6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 13:CLASS
14:CLASS

15:CLASS17:CLASS18:CLASS19:CLASS22:CLASS23:CLASS

(FILE 'HOME' ENTERED AT 18:53:53 ON 30 JUN 2007)

FILE 'REGISTRY' ENTERED AT 18:54:14 ON 30 JUN 2007

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full

FULL SEARCH INITIATED 18:54:42 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 2750 TO ITERATE

100.0% PROCESSED 2750 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

176.60

176.81

FILE 'REGISTRY' ENTERED AT 19:00:38 ON 30 JUN 2007

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STRUCTURE FILE UPDATES: 29 JUN 2007 HIGHEST RN 940349-93-9

DICTIONARY FILE UPDATES: 29 JUN 2007 HIGHEST RN 940349-93-9

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

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Uploading C:\Program Files\Stnexp\Queries\582406-3-1.str

L3 STRUCTURE UPLOADED

=> d his

(FILE 'HOME' ENTERED AT 18:53:53 ON 30 JUN 2007)

FILE 'REGISTRY' ENTERED AT 18:54:14 ON 30 JUN 2007

L1 STRUCTURE UPLOADED

L2 0 S L1 FULL

FILE 'REGISTRY' ENTERED AT 19:00:38 ON 30 JUN 2007
L3 STRUCTURE UPLOADED

=> d l3
L3 HAS NO ANSWERS
L3 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l3 full
FULL SEARCH INITIATED 19:01:12 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 3640 TO ITERATE

100.0% PROCESSED 3640 ITERATIONS 10 ANSWERS
SEARCH TIME: 00.00.01

L4 10 SEA SSS FUL L3

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 172.10 348.91

FILE 'CAPLUS' ENTERED AT 19:01:19 ON 30 JUN 2007
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FILE LAST UPDATED: 29 Jun 2007 (20070629/ED)

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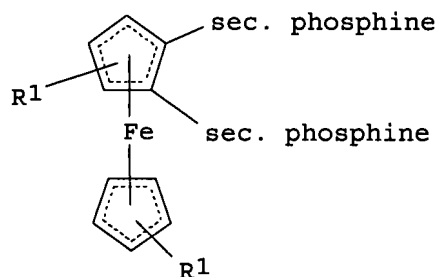
=> s l4
L5 2 L4

=> d 1-2 bib abs

L5 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:547608 CAPLUS
DN 143:78304
TI Preparation of ferrocenyl-1,2-diphosphines and their metal complexes as catalysts for asymmetric synthesis
IN Lotz, Matthias; Kesselgruber, Martin; Thommen, Marc; Pugin, Benoit
PA Solvias A.-G., Switz.

SO PCT Int. Appl., 65 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005056568	A1	20050623	WO 2004-EP53389	20041210
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2548928	A1	20050623	CA 2004-2548928	20041210
	EP 1692151	A1	20060823	EP 2004-820078	20041210
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	CN 1894268	A	20070110	CN 2004-80037022	20041210
	JP 2007516971	T	20070628	JP 2006-543552	20041210
	US 2007142655	A1	20070621	US 2006-582406	20060609
PRAI	CH 2003-2131	A	20031212		
	WO 2004-EP53389	W	20041210		
OS	CASREACT 143:78304; MARPAT 143:78304				
GI					



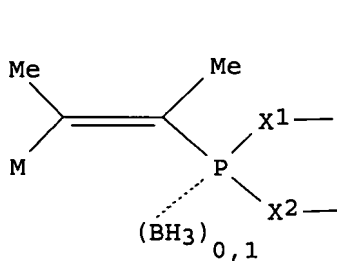
AB The invention relates to preparation of compds., I (R1 = H, C1-4 alkyl, and at least one sec. phosphine depicts an unsubstituted or substituted cyclic phosphine group, or phosphonium salts thereof having one or two monovalent anions or a divalent anion), provided in the form of racemic compds., mixts. of diastereomers or essentially pure diastereomers. I can be obtained by a novel method and are valuable ligands for catalytically active metal complexes in asym. synthesis.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

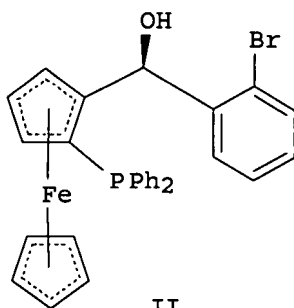
L5 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 2005:547607 CAPLUS
 DN 143:78303
 TI Method for producing ortho-metalated and ortho-substituted aromatic compounds
 IN Pfaltz, Andreas; Lotz, Matthias; Schoenleber, Marc; Pugin, Benoit; Kesselgruber, Martin; Thommen, Marc

PA Solvias A.-G., Switz.
 SO PCT Int. Appl., 98 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005056566	A2	20050623	WO 2004-EP53388	20041210
	WO 2005056566	A3	20051201		
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	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,				
	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,				
	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				
	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,				
	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,				
	AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,				
	EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,				
	RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,				
	MR, NE, SN, TD, TG				
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	EP 1692149	A2	20060823	EP 2004-820077	20041210
	R:				
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	CN 1890253	A	20070103	CN 2004-80036675	20041210
	JP 2007513923	T	20070531	JP 2006-543551	20041210
	US 2007149796	A1	20070628	US 2006-582404	20060609
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OS	CASREACT 143:78303; MARPAT 143:78303				
GI					

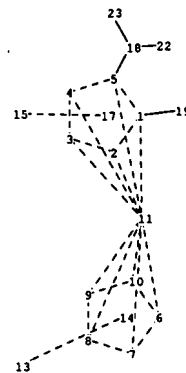
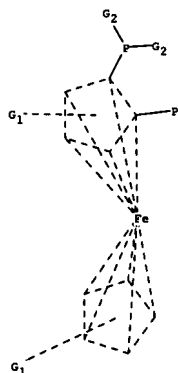


I



II

AB The invention relates to compds. having a structural element I in an aromatic hydrocarbon ring, wherein: M = Li, MgX₃, (C₁-18 alkyl)₃Sn, ZnX₃, B(OC₁-4 alkyl)₂; X₁, X₂ = independent of one another, represent O, N, C-bound hydrocarbon radicals, heterohydrocarbon radicals are bound to the free bonds of the O and N atoms; group C:C, together with C atoms, forms a hydrocarbon aromatic compound and represents X₃ Cl, Br, I. The inventive compds. are easily obtained by directly substituting the hydrogen in the ortho position to the P atom with metalation reagents. The metal atoms can then be substituted by a reactive electrophilic compound. The group P(X₁)(X₂)----(BH₃)_{0.1} can then be converted into a secondary phosphine group. The inventive method enables the production of monophosphines and diphosphines even on a large scale (coating), which are valuable ligands for metal complexes serving as catalysts for, e.g. enantioselective hydrogenations. Thus, preparation of title compound is described in several steps starting from ferrocene.



chain nodes :

13 15 18 19 22 23

ring nodes :

1 2 3 4 5 6 7 8 9 10 11

chain bonds :

1-19 5-18 18-22 18-23

ring bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11

exact/norm bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11 18-22 18-23

exact bonds :

1-19 5-18

G1:H,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

G2:H,Cl,Br

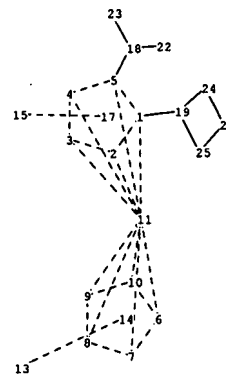
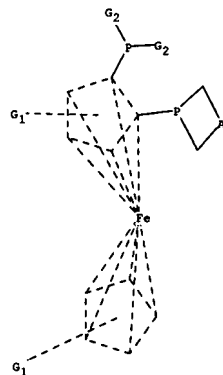
Connectivity :

18:1 M minimum RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:CLASS6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 13:CLASS
14:CLASS

15:CLASS17:CLASS18:CLASS19:CLASS22:CLASS23:CLASS



chain nodes :

13 15 18 22 23

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 19 24 25 26

chain bonds :

1-19 5-18 18-22 18-23

ring bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11 19-24 19-25 24-26 25-26

exact/norm bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10
9-11 10-11 18-22 18-23 19-24 19-25 24-26 25-26

exact bonds :

1-19 5-18

G1:H,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu

G2:H,Cl,Br

Connectivity :

18:1 M minimum RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:CLASS6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 13:CLASS
14:CLASS

15:CLASS17:CLASS18:CLASS19:CLASS22:CLASS23:CLASS24:Atom 25:Atom 26:Atom